

Minutes

Perchlorate Community Advisory Group June 12, 2003

The meeting was called to order at 10:10 by CAG President Sylvia Hamilton.

In attendance: (type from roster)

Corrections to Minutes:

- 1) Bob Cerruti noted the minutes did not reflect his request that the District provide an explanation of the basis for the long-term solution cost estimates.
- 2) Evelyn Heinrichs noted that Michael Brookman's name was misspelled.
- 3) The minutes should reflect the timeframe designations from Sylvia Hamilton's chart as "Immediate, Interim, and Long-term", and not as "intermediate".
- 4) Sylvia Hamilton noted that the discussion on voting rights needed clarification. The intention is for all committee members participate in consensus building, but in contentious matters, community members would vote while agency members would not. The final recommendations of the PCAG to the RWQCB will reflect the voice of the community.
- 5) Evelyn Heinrichs noted that the Mission Statement in the minutes needs one modification: the words "*remediation of perchlorate in groundwater*" should be changed to "*remediation of perchlorate contamination*". This change was discussed and agreed to in order to include secondary impacts perchlorate contamination and not limit the scope of the PCAG to groundwater contamination alone.

The minutes were adopted as amended.

Charter By-Laws

Sylvia Hamilton expressed appreciation for the subcommittee that prepared the Charter By-Laws: Tracy Hemmeter, Michael Brookman, and Evelyn Heinrichs.

Tracy Hemmeter of SCVWD summarized the development of the Charter By-Laws noting the committee used the Moffett Field Restoration Advisory Board Charter By-Laws as a model. Tracy noted that while the language of the By-Laws is necessarily formal, the discourse of the committee need not be. In case of contentious issues, the committee can fall back on this well-defined set of rules for guidance. Sylvia Hamilton asked committee members to read the By-Laws and be prepared to discuss and adopt these By-Laws at the July 10 meeting.

RWQCB Report

Harvey Packard of the Central Coast Regional Water Quality Control Board (RWQCB) advised the committee he had met with Olin Corporation and discussed several issues relating to the site investigation and cleanup.

Status of Site Investigation and Remediation

Olin will submit their report of the current site investigation at 425 Tennant Road by June 30th. The report will include results of a detailed site investigation delineating horizontal and vertical extent of perchlorate contamination, a preliminary site groundwater cleanup plan, including locations of extraction wells and depths of screened intervals for extraction wells. The June 30th

submittal will also include a revised soil cleanup plan. Olin has retained an additional specialty consultant (Geosyntec Inc.) to assist Mactec, Olin's primary consultant, with evaluation of soil cleanup options. The selected soil remedy will be implemented in the mid-September timeframe. RWQCB will seek to provide electronic copies of the June 30th report to committee members, and the Santa Clara Valley Water District will make it available for download on its perchlorate page. Sylvia Hamilton suggested the Oregon State University Group plan to prioritize review and summary of this document in time for the July 10 PCAG meeting.

The on-site groundwater cleanup will require completion of aquifer testing (pumping tests to assess aquifer hydraulic parameters), review of data, permitting of treatment systems and discharge of treated groundwater to either the creek or the City's water distribution system, and implementation. Implementation of the site groundwater cleanup plan is expected in early 2004. Harvey Packard noted that Olin mentioned in discussion that at this time they foresee pumping at a rate equal to or greater than the Tennant Well.

Sylvia Hamilton inquired whether Olin's report would provide details on how much perchlorate may have been in the aquifer in past decades. Harvey Packard advised the reports are not presently required to provide this analysis, but he could ask Olin to provide an estimate of past perchlorate concentrations and rates of contaminant migration. Tracy Hemmeter of SCVWD informed the Committee that the District is planning to issue a consulting contract in July for a groundwater flow model of the Llagas Basin that would be completed in 9 months (by April-May 2004). She noted that the perchlorate data may be used to calibrate the portion of the model that will simulate contaminant transport in the basin.

A member of the audience asked whether soil remediation couldn't be started sooner, noting that the wet season would bring problems for excavation or other field activities, and rain may cause more contamination to be flushed from the soil to the groundwater. Harvey Packard noted that the known contaminated areas are covered with plastic to prevent rain infiltration, and Bob Wood advised that the soils are gravelly enough to permit wet season construction.

A member of the audience asked whether a cleanup goal had been established for either soil or groundwater. Harvey Packard advised that none had been adopted yet, but that Olin will propose one in the plans they will submit by June 30th.

Transfer of Bottled Water Deliveries from District to Olin

Harvey Packard advised the Committee that his discussion with Olin included specifics on the transfer of ongoing bottled water delivery from the District to Olin¹. Harvey reported that Olin advised RWQCB they would underwrite bottled water delivery to all homes whose water is supplied by wells with perchlorate detections greater than 4 ppb², and will continue providing bottled water and quarterly testing to all homes supplied by wells with perchlorate concentrations ranging from 2 to 4 ppb. Those homes supplied by wells that were non-detect for perchlorate (< 2 ppb) but located in close proximity to wells with detections would also continue to receive bottled water. Sylvia Hamilton noted that while this means some homes will no longer receive bottled water, this appears to be a good plan to address perchlorate impacts.

Wellhead Treatment for Morgan Hill

Mr. Packard continued his report noting that the City of Morgan Hill is planning to install an ion exchange treatment system on the Tennant Well, which is located about 100 yards southwest of the Olin site at 425 Tennant Road. Jim Ashcraft, Morgan Hill Public Works Director, advised that the City is working with the Department of Health Services to obtain a permit to use treated

¹ Presently, the District is paying for delivery of bottled water to nearly 1,600 homes, while Olin is delivering to nearly 800 homes.

² ppb = parts per billion = micrograms per liter = µg/L

groundwater in its distribution system, and that they hope to have the well online by July 1st. Packard reported that Olin registered concerns that pumping the well may pull contamination downward. RWQCB holds the view that pumping the well is better than not pumping it because the water will be treated to remove perchlorate and the water is needed by the City to meet peak demand.

Bob Cerruti asked whether the City will be using Calgon Carbon to supply the treatment system. Public Works Director Ashcraft replied that US Filter was selected as the supplier. Mr. Cerruti also wanted to know what would become of the hazardous waste that would be generated by an ion exchange system. Mr. Ashcraft clarified that the system will not generate a hazardous liquid waste, noting that the type of ion exchange used will be “regenerable”. Filters will last four to five months, whereupon they will be exchanged for new ones. Spent filters will be hauled away by the vendor for off-site treatment and regeneration at a permitted facility. An audience member wanted to know who would incinerate the filters. Ashcraft advised that this would be done by US Filter.

Olin has also been in discussion with both the West San Martin Water Works and San Martin County Water District regarding wellhead treatment for these two impacted systems. Peter Forest reported on his meeting with Olin Corp, noting:

- 1) Olin is interviewing small water system operators to determine what solution they prefer. He noted Olin is seeking detailed information on well operation and construction and that Olin is prioritizing solutions for the largest water systems (San Martin County Water District (SMCWD) and West San Martin Water Works (WSMWW)). Mr. Forest reported that Olin was very cooperative and solicited his input on solutions.
- 2) Mr. Forest clarified that while Olin is planning to supply wellhead treatment for the San Martin County Water Works well, this is an interim solution. Mr. Forest prefers that an alternate water supply be found, as he does not wish to depend on Olin for the next 50 years.
- 3) Mr. Forest related that Olin also met with West San Martin Water Works, and that Olin will be arranging for rapid deployment of treatment systems for both SMCWD and WSMWW. The systems will also be ion exchange systems. Technical challenges include maintaining required pressures to meet fire suppression demand, and additional storage capacity may be required. No time frame was given for implementation.

PCAG member Evelyn Heinrichs wanted to know whether there was any new information on perchlorate concentrations, and whether the plume was moving. SCVWD's Thomas Mohr explained that the few dozen wells that have been tested several times, there was a substantial downward trend, and gave two examples: In a shallow monitoring well on the Tennant Road site, concentrations dropped from 780 ppb in December to 11 ppb in February. In the U-Save Rockery well a quarter mile south of the site, concentrations dropped from 98 ppb in September 2002 to less than 4 ppb in February 2003. He further noted that nearly all wells sampled at least twice showed a decrease in perchlorate concentration corresponding to the rise in water table.

Ongoing Testing to the West and North

Morgan Hill Mayor Dennis Kennedy inquired whether the trends were relevant since some wells may have been turned off since the perchlorate was detected. Mohr clarified that most wells are still in use for non-drinking water home needs such as washing clothes and watering yards. Mayor Kennedy advised RWQCB that the City would like to see Olin test wells north of Tennant up to Dunne Avenue. Mr. Packard noted that he had been in discussion with City staff on this topic this week, and noted that because there are three City supply wells that have had occasional low-level detections of perchlorate, he will be asking Olin to test wells north of Tennant Avenue.

Sylvia Hamilton wanted to know whether more wells will be tested west of Monterey Road. Harvey Packard advised that well testing in the expansion area will be continued until the area of perchlorate impact is well defined. Tracy Hemmeter provided clarification noting that RWQCB is requiring Olin to complete two parallel efforts, namely characterizing the extent of perchlorate impacts while also selecting a smaller number of wells for routine quarterly monitoring. Harvey Packard explained that about 10% of the wells with detections will be used for repeat monitoring to determine seasonal trends in perchlorate concentrations.

Agricultural Commissioner's Report

Mr. Greg Van Wassenhove, Santa Clara County Agricultural Commissioner, presented an update on activity relating to evaluating perchlorate impacts to crops and livestock. He noted that an Action Item of the previous meeting was to provide information on how growers and homeowners can test produce grown in San Martin and irrigated with perchlorate-laden well water. Mr. Van Wassenhove explained that his role has been to push agencies for a comprehensive action plan to evaluate perchlorate impacts to crops, including testing produce and completion of a risk assessment. Mr. Van Wassenhove has been conferring with officials in the U.S. Food and Drug Administration and the U.S. Department of Agriculture. He recently attended a conference and discussed the San Martin perchlorate issue with top US EPA officials, and noted that the Secretary of Agriculture has been in discussion with White House staff on this issue. He noted that there are at least 8 regions in the U.S. where perchlorate has impacted agricultural regions, and this is not just a problem in San Martin – it's a nation-wide problem. Mr. Van Wassenhove explained that while grants from USDA and US EPA will be pursued, possibly leading to projects starting within the next year, private initiatives are needed to address the immediate need to assess impacts to crops.

Locally, Mr. Van Wassenhove has been in discussion with laboratories that are developing methods for analysis of produce for perchlorate (Sequoia Analytical and Texas Tech University). Representatives from Sequoia Analytical in attendance advised that crop samples could be analyzed down to 50 ppb perchlorate for \$300 per sample with a two week turnaround.

Mr. Van Wassenhove has been participating in a County Committee led by Supervisor Don Gage and known as the Housing, Land Use and Transportation Committee on the third Thursday of each month. This committee coordinates communication between the County and outside agencies on the perchlorate issue and others. Edwin Chan of Supervisor Gage's office offered to provide monthly reports from this committee (prepared by Santa Clara County Department of Environmental Health) to PCAG members.

Sylvia Hamilton commented that the community is very interested in seeing prompt action on the crops issue, and recommended that a snapshot sampling of different crops, similar to the Environmental Working Group's sampling of lettuce from supermarkets, be completed now while more detailed studies are being planned and funded. PCAG member Joan Harding inquired whether any testing of dairy milk had been completed. PCAG member Gary Shallcross of Assemblymember Laird's office and the Central Coast RWQCB reported that a working group of state agencies concerned with perchlorate has formed and has decided to study dairy, but funding has not yet been identified. The working group includes the following state agencies: Department of Toxic Substances Control, State Water Resources Control Board, Office of Environmental Health Hazard Assessment, and Department of Health Services. Mr. Shallcross offered to provide the PCAG with updates from the state agencies perchlorate working group.

Sylvia Hamilton commented that the PCAG should first identify what's needed, prioritize those needs, and then address funding. Sylvia Hamilton asked Louie Bonino asked whether he was aware of the Farm Bureau would be participating in the testing of produce. He was not sure and the The PCAG member from the Farm Bureau was absent. Mr. Van Wassenhove advised he is

seeking to create opportunities for businesses and home gardeners to test their own produce. He emphasized that perchlorate in produce is an emerging issue and devising the means to assess the issue takes time. Mr. Van Wassenhove reiterated that a comprehensive approach is needed.

PCAG member Bob Cerruti asked whether the County could help pay for home gardeners' produce analyses for perchlorate. Mr. Van Wassenhove assured Bob that, in light of a \$140 million deficit, the County will not provide any financial assistance to residents. An audience member raised concerns that crops are now being harvested and sent to market, and that we don't know if it is safe to consume that produce. The gentleman suggested that Olin should pay for crop testing, and doubted that there's not \$4,000 available to run six tests on produce to see where we stand.

Santa Clara County Health Report

PCAG member Vivian Varela of the County Health office reported that the next meeting of the Perchlorate Medical Advisory Group (PMAG) will be on Thursday, June 26, 2003 at the Santa Clara County Public Health site, 80 Highland Ave. in San Martin at 7:00 PM, in the Social Services conference room. The PMAG is ~~comprised~~ adding of three additional community members, one pediatrician, one obstetrician/gynecologist, and one physician. She has prepared a bibliography of medical references, and will provide this to the PCAG electronically. Dr. Martin Fenstersheib, County Medical Officer, will attend the PMAG meeting on June 26th. The perchlorate water informational meeting for the Spanish-speaking community, sponsored by the Santa Clara Water District, will be at St. Catherine's Church at 1:00 PM to 2:30 PM on Sunday, 6/22/03 after the Spanish mass.

Santa Clara Valley Water District Presentation of Long Term Solution Options

Presentation of Alternatives

Mr. Marc Lucca, Senior Project Manager with SCVWD distributed material summarizing six alternatives for water supply solutions for discussion with the PCAG. Mr. Lucca emphasized that the final water supply solution may be a combination of these alternatives, and that his purpose was to solicit input from the community. He explained that the scope of the District's review of water supply solutions did not include restoration of the groundwater basin, which is Olin's responsibility. Mr. Lucca defined the scope of the District's analysis as "evaluating options that provide a safe reliable domestic and agricultural water supply to the community". Because this scope differs from Olin's task of restoring the groundwater basin, the timelines for implementation may be on the order of two to five years, as opposed to the 20 to 50 year timeline that may be required for basin restoration. The alternatives reviewed included various combinations of point-of-use treatment, well-head treatment, use of reclaimed water for irrigating crops, and central distribution of treated imported water. Mr. Lucca emphasized that the evaluation of water supply solution options was designed to be flexible, allowing the incorporation of additional contaminants (the review addresses perchlorate, nitrate, and arsenic), and expansion to incorporate additional geographic areas as needed.

The Point-of-Use option allows the continued use of the basin, and would involve under-sink treatment units such as reverse osmosis and nanofiltration. Other technologies for point of use include ion exchange, distillation, and electro-reduction of perchlorate. A challenge to implementing the Point-of-Use option is that certification of treatment units by the California Department of Health Services (DHS) is not yet available. Funding of Point-of-Use units could come from Olin, homeowners, or a District-sponsored rebate program. Point-of-Use does not address home gardening or livestock/pets issues.

An audience member pointed out that all point-of-use systems generate waste. Gary Shallcross asked whether DHS is pursuing certification of Point-of-Use systems. Tracy Hemmeter advised that DHS certification implies that the water to be treated already meets Title 22 standards for potability, and there is no standard for perchlorate.

Mr. Lucca continued profiling water supply solutions by discussing wellhead treatment. This would be a much larger and more expensive version of perchlorate treatment system than Point-of-Use. Use of reclaimed wastewater from the South County Recycled Water Authority (SCRWA) would involve miles of pipelines to supply growers with irrigation water. Mr. Lucca explained that to determine cost estimates for a central distribution system for treated imported water, District engineers completed preliminary design of pipe lay distances, pipe sizes, pump station requirements, costs of trenching in streets and fields, etc. The resulting estimates are very preliminary, and at this point in the design process, it is common to use a contingency factor of 30 to 40%.

Discussion

- Bob Wood commented that a similar plan to connect homes in San Martin to a central water distribution system was fielded twenty years ago by the Gavilan Water District but was not accepted by the community. Mr. Lucca replied that the six solutions evaluated present a range of options and that the actual solution, when endorsed by the community and adopted, would probably fall somewhere in the middle of the spectrum.
- Bob Cerruti reported that he and many of the community members he hears from are interested in the fastest and most economical way to continue using their wells, with the fix paid for by Olin.
- Sylvia Hamilton also emphasized that people want to continue using their wells and that they should not have to change their way of life due to a problem they did not cause.
- Tracy Hemmeter asked whether a centralized distribution system would be desired, pointing out that this provides a high degree of reliability and flexibility.
- Mayor Dennis Kennedy questioned why the implementation time for Point-of-Use systems, i.e. under-sink reverse-osmosis units, is two years when residents can now acquire these and install them within a week. Mayor Kennedy also asked what the break-even point would be for providing reverse osmosis units to users of impacted well water vs. continuing to pay for bottled water.
- Mr. Lucca suggested Olin is probably considering the break-even point question. He added that the District's quick action to assist Morgan Hill with the Tennant Well quickens the pace for Olin to bring about a solution more rapidly.
- Peter Forest, operator for the SMCWD, advised he receives many calls from private well owners and small mutual water companies who want to get connected to SMCWD water. He pointed out that Point-of-Use devices are available for purchase by the homeowner if they don't require the seller to certify that they will remove perchlorate. He asked if 900 reverse-osmosis units are installed, who will test that they're effectively removing perchlorate? He also pointed out that ion exchange devices can cause accumulated nitrate to slough off into the homeowner's drinking water supply at elevated concentrations (200 to 300 ppm) if high sulfate is present. Mr. Forest expressed his view that Point-of-Use systems are problematic for DHS because of the testing, maintenance, and waste disposal issues. Olin must address the same issues when considering Point-of-Use issues. The advantage of Point-of-Use systems is that the homeowner retains use of the well and maintains control of her water supply.
- Audience member James Jones of Sycamore Avenue stated that he had a beautiful well that he used for 75 years, and suddenly it's contaminated. He added that we know who did this, and Olin is responsible for it. He pointed out there are many questions but few answers, such as how long will the plume continue. Mr. Jones shared that five years is a long time to wait for solutions, and there's no reason for San Martin residents to pay

for a problem Olin created. He asked what Morgan Hill and the Santa Clara Valley Water District were doing all along.

- PCAG member Bob Wood asked whether the District could flood the aquifer with clean water from Anderson reservoir. Tracy Hemmeter explained that this had been evaluated as a possible solution to the nitrate problem, and that there were problems with flooding septic systems, adding that it's difficult to substantially increase the rate of infiltration through the District's percolation ponds.
- Audience member Dick Peekema, a Ph.D. Electrochemist and attorney from San Jose, stated that he thinks the public perception of the threat from perchlorate is overblown, and offered to provide anyone interested with an article showing that drinking water with up to 200 ppb perchlorate is probably safe.
- Another audience member asked how serious the perchlorate problem is, noting that the community has apparently been consuming perchlorate tainted water for 40 years, and that he's not aware of any problems that have resulted. The speaker presented his view that the actions being taken to address perchlorate are preceding a thorough assessment of how serious the problem is.

NEXT MEETING: July 10, 2003, 10 AM – 12 PM, San Martin Lion's Club, Llagas Avenue

Minutes prepared by Tom Mohr for Reid Fisher who was unable to attend.

Next Meeting

Sylvia Hamilton asked what the PCAG needs for the next meeting. Bob Cerruti asked that the PCAG receive any reports that RWQCB receives from Olin.

PCAG June 12, 2003 Action Items

- 1) Committee members will read the By-Laws and be prepared to discuss and adopt these By-Laws at the July 10 meeting.
- 2) Edwin Chan of Supervisor Gage's office offered to provide monthly reports from the Housing, Land Use and Transportation Committee to PCAG members.
- 3) Gary Shallcross offered to provide the PCAG with updates from the state agencies perchlorate working group.
- 4) Vivian Varela to provide a bibliography of medical references to PCAG members electronically.
- 5) RWQCB to forward any electronic reports it receives from Olin to PCAG members (District will continue to post these on its website)

Attached: Guide to Olin's Reports on District Website

A GUIDE TO OLIN'S REPORTS ON DISTRICT WEBSITE

1. Olin Reports Page – all documents:

<http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/>

2. Olin Soil Remediation Alternatives Evaluation:

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/SWI_R_2003-03-31.pdf

3. Olin Groundwater Soil Remediation Alternatives Evaluation:

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/FEASSTUD_R_2003-03-31.pdf

4. RWQCB Orders and Correspondence:

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/CORRES_2001-.pdf

5. Phase 2 Workplan

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/WP_R_2002-06-24.pdf

6. Phase 2 Soil and Groundwater Investigation Report – Tennant Road Site

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/PSA_R_2002-12-02.pdf

7. Phase 3 Workplan

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/WP_R_2003-02-12.pdf (Report will be issued June 30th, 2003)

8. Tier IV Offsite Well Sampling Workplan:

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/WP_R2_2003-02-12.pdf

9. June 1997 Site Investigation Report (predating perchlorate detection)

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/SWI_R_1997-06-26.pdf

10. Quarterly Reports for Site Groundwater Monitoring:

First Quarter 2002

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/GWM_R_2002-04-29.pdf

Second Quarter 2002

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/GWM_R_2002-07-15.pdf

Third Quarter 2002

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/GWM_R_2002-10-29.pdf

Fourth Quarter 2002

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/GWM_R_2003-01-30.pdf

First Quarter 2003

http://lustop.valleywater.org/Solvents/Solvent%20Files/09/09S03E27N01s/GWM_R_2003-04-29.pdf

If you are seeking information you believe the District has received but cannot find it, please e-mail Tom Mohr at: tmohr@valleywater.org . If you wish to view reports from any of the additional 2,300 groundwater contamination sites in Santa Clara County, you may do so by following the directions found at:

http://www.valleywater.org/Water/Water_Quality/Protecting_your_water/Lustop/Files/View_Files.shtm

The District is serving more than 6 million pages of regulatory compliance documents for groundwater contamination sites in Santa Clara County. If you need assistance finding information, please call Celia Norman at 408-265-2607x 3752.

Thomas K.G. Mohr

Solvents and Toxics Cleanup Liaison

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